Instructions

GL-33® (Grease) and GL-42® (Oil) Injectors

334495B
EN

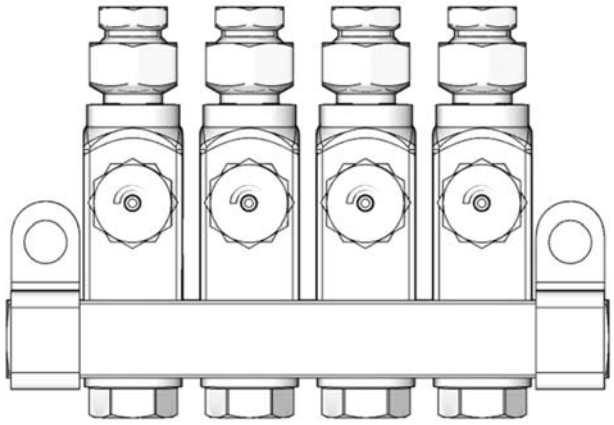
For Single-Line, Parallel, and Automatic Injector Systems dispensing grease, N.L.G.I. grades #000 - #2 and oil (minimum SAE 10 weight).

3500 psi (24 MPa, 241 bar) Maximum Working Pressure - Grease Models
1000 psi (6.89 MPa, 68.9 bar) Maximum Working Pressure - Oil Models

Model Nos.:

	GL-33 1/8 NPTF	GL-33 1/8 BSPP	GL-33 SST 1/8 NPTF	GL-33 SST 1/8 BSPP	GL-42 1/8 NPTF	GL-42 1/8 BSPP
Stand-Alone	24W487 24W488		24W489 24W490		24W493 24W494	
Replacement	24W483	24W484	24W485	24W486	24W491	24W492
1X Manifold	24W401	24W501	24W601	24W701	24W801	24W901
2X Manifold	24W402	24W502	24W602	24W702	24W802	24W902
3X Manifold	24W403	24W503	24W603	24W703	24W803	24W903
4X Manifold	24W404	24W504	24W604	24W704	24W804	24W904
5X Manifold	24X302	24X303	24X304	24X305	24X306	24X307
6X Manifold	24W405	24W505	24W605	24W705	24W805	24W905
9X Manifold	24W406				24W806	
10X Manifold	24W407	24W506	24W606	24W706	24W807	24W906
15X Manifold	24W408	24W507	24W607	24W707	24W808	24W907

Important Safety Instructions
Read all warnings and instructions in this manual and in the pump instruction manual included with your system. Save all instructions.



Warnings

The following warnings are for the setup, use, grounding, maintenance, and repair of this equipment. The exclamation point symbol alerts you to a general warning and the hazard symbols refer to procedure-specific risks. When these symbols appear in the body of this manual or on warning labels, refer back to these Warnings. Product-specific hazard symbols and warnings not covered in this section may appear throughout the body of this manual where applicable.

⚠WARNING

FIRE AND EXPLOSION HAZARD

When flammable fluids are present in the work area, such as gasoline and windshield wiper fluid, be aware that flammable fumes can ignite or explode. To help prevent fire and explosion:

- Use equipment only in well ventilated area.
- Eliminate all ignition sources, such as cigarettes and portable electric lamps.
- Keep work area free of debris, including rags and spilled or open containers of solvent and gasoline.
- Do not plug or unplug power cords or turn lights on or off when flammable fumes are present.
- Ground all equipment in the work area.
- Use only grounded hoses.
- **Stop operation immediately** if static sparking occurs or you feel a shock**.** Do not use equipment until you identify and correct the problem.
- Keep a working fire extinguisher in the work area.

SKIN INJECTION HAZARD

High-pressure fluid from dispensing device, hose leaks, or ruptured components will pierce skin. This may look like just a cut, but it is a serious injury that can result in amputation. **Get immediate surgical treatment.**

- Do not point dispensing device at anyone or at any part of the body.
- Do not put your hand over the fluid outlet.
- Do not stop or deflect leaks with your hand, body, glove, or rag.
- Follow the **Pressure Relief Procedure** when you stop dispensing and before cleaning, checking, or servicing equipment.
- Tighten all fluid connections before operating the equipment.
- Check hoses and couplings daily. Replace worn or damaged parts immediately.

PERSONAL PROTECTIVE EQUIPMENT

Wear appropriate protective equipment when in the work area to help prevent serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. This protective equipment includes but is not limited to:

- Protective eyewear, and hearing protection.
- Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer.

Installation

Pressure Relief Procedure

Follow the Pressure Relief Procedure whenever you see this symbol.

This equipment may stay pressurized or may become pressurized by an automatic lubrication cycle initiated by a lubrication controller. To help prevent serious injury from pressurized fluid, such as skin injection, splashing fluid and moving parts, follow the Pressure Relief Procedure before cleaning, checking, or servicing the equipment.

1. Disconnect power to the lubrication controller.
2. If connected to an air supply, disconnect air supply to pump module to ensure the system is depressurized.
3. Consult your pump manual for any additional pressure relief instructions related to your pump module.

Adjustment Instructions

Reference numbers used in the following instructions refer to FIG. 1.

1. Loosen lock nut (7).
2. Hand tighten the Adjuster Nut (8) then loosen, approximately 1/2 turn to achieve the minimum dispensed output volume (0.001 $in.^3$).

   NOTE: Any output setting below 1/2 turn should be monitored to verify actual output volume.

3. Retracting the Adjuster Nut (8) one and three-quarter turns from the hand-tight position permits a maximum dispensed output volume (0.003 $in.^3$) This is the factory, preset position.

   NOTE:

   - Each full turn out represents an addition of approximately 0.0018 $in.^3$ volume output.
   - The amount of dispensed volume can vary depending on external conditions such as lubricant temperature and back pressure from the downstream connection.
4. When the injector has been adjusted for the proper lubricant output, wrench tighten the stroke adjustment lock nut (7).

NOTICE

To prevent component failure, the adjustment nut (8) must not be extended beyond the fully retracted position of the piston (6). See FIG. 1.

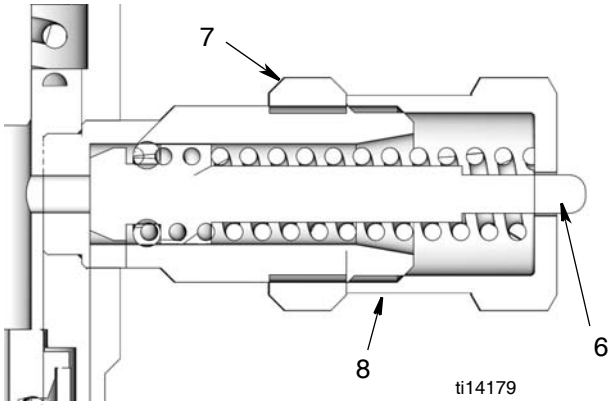


FIG. 1

Installation Instructions

Reference letters used in the following instructions, refer to FIG. 2.

- Group injectors to minimize feed line length.
- Install injectors in locations that allow easy and safe servicing access.
- Install injectors in areas that minimize accidental injector damage by moving equipment.
- Injector outputs can be combined for a common bearing point with a large grease requirement but the output for a single injector cannot be split into multiple bearing points.
- Graco recommends using steel tubing instead of pipe and hose for supply lines when possible. Pipe is often contaminated with scale and requires proper cleaning prior to use. Hose lines expand under pressure which leads to longer pump cycle time.

1. Relieve pressure. See **Pressure Relief Procedure**, page 3.
2. Install injectors on a flat, hard surface using mounting brackets (a).
3. Connect fluid supply line (c) to injectors.

NOTICE

To prevent rupturing supply lines due to over-pressurizing the components, only use supply lines and fittings that meet or exceed the pressure rating of the injectors.

4. Connect lube point feed lines (b).
5. Flush the system with low viscosity oil or mineral spirits to remove contamination introduced during installation.
6. Use a purge gun or run the pump until clean lubricant is dispensed at the end of each feed line to purge the system of flushing fluid or air.
7. Run the system at full output and verify that all injectors are cycling.
8. Adjust injector volume output. (See Adjustment Instructions, page 3.)
9. Connect feed lines to lubrication points.

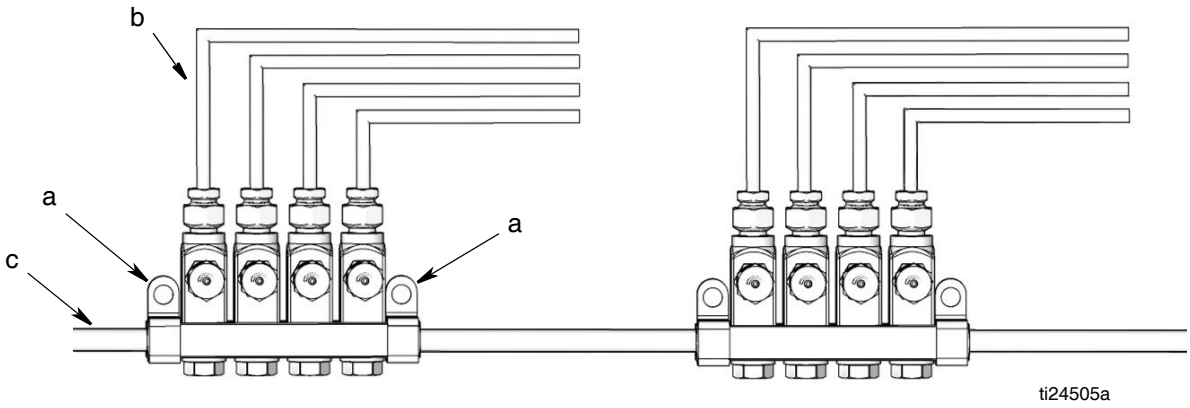
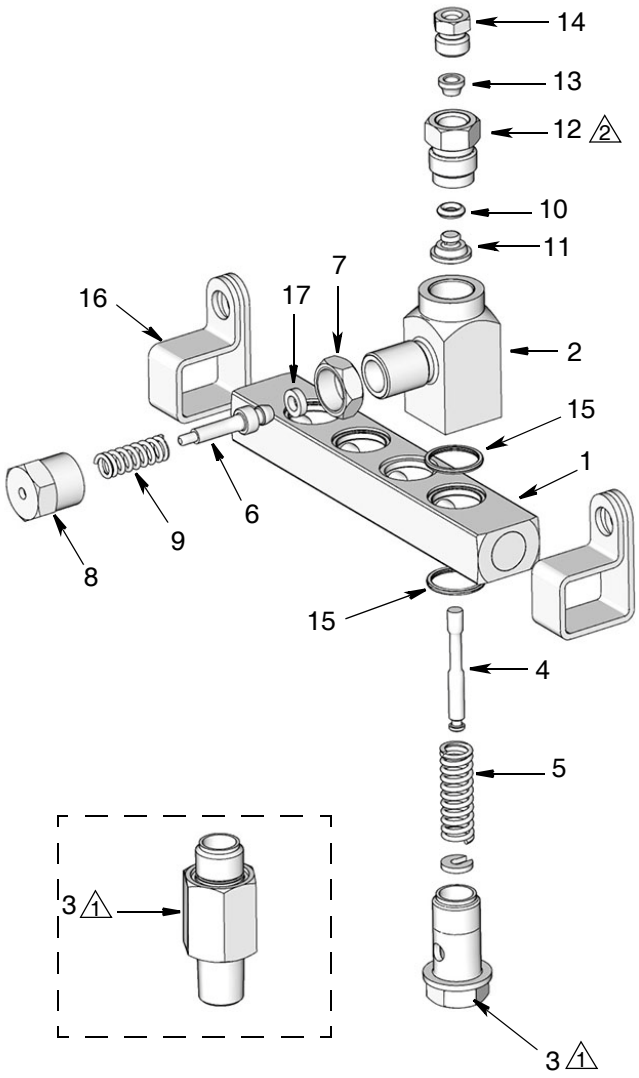


FIG. 2

Parts



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Ref.	Part No.	Description	Qty
1	17B871	BLOCK, manifold, 1 injector, 1/8 NPTF (model 24W401, 24W801)	1
	17B951	BLOCK, manifold, SST, 1 injector, 1/8 NPTF (model 24W601)	1
	17B872	BLOCK, manifold, 2 injector, 1/8 NPTF (model 24W402, 24W802)	1
	17B952	BLOCK, manifold, SST, 2 injector, 1/8 NPTF (model 24W602)	1
	17B873	BLOCK, manifold, 3 injector, 1/8 NPTF (model 24W403, 24W803)	1
	17B953	BLOCK, manifold, SST, 3 injector, 1/8 NPTF (model 24W603)	1
	17B874	BLOCK, manifold, 4 injector, 1/8 NPTF (model 24W404, 24W804)	1
	17B954	BLOCK, manifold, SST, 4 injector, 1/8 NPTF (model 24W604)	1
	17D731	BLOCK, manifold, 5 injector, 1/8 NPTF (models 24X302, 24X306)	1
	17D733	BLOCK, manifold, SST, 5 injector, 1/8 NPTF (model 24X304)	1
	17B875	BLOCK, manifold, 6 injector, 1/8 NPTF (model 24W405, 24W805)	1
	17B955	BLOCK, manifold, SST, 6 injector, 1/8 NPTF (model 24W605)	1
	17B876	BLOCK, manifold, 9 injector, 1/8 NPTF (model 24W406, 24W806)	1
	17B877	BLOCK, manifold, 10 injector, 1/8 NPTF (model 24W407, 24W807)	1
	17B956	BLOCK, manifold, SST, 10 injector, 1/8 NPTF (model 24W606)	1
	17B878	BLOCK, manifold, 15 injector, 1/8 NPTF (model 24W408, 24W808)	1
	17B957	BLOCK, manifold, SST, 15 injector, 1/8 NPTF (model 24W607)	1
	17B941	BLOCK, manifold, 1 injector, 1/8 BSPP (model 24W501, 24W901)	1
	17B991	BLOCK, manifold, SST, 1 injector, 1/8 BSPP (model 24W701)	1
	17B942	BLOCK, manifold, 2 injector, 1/8 BSPP (model 24W502, 24W902)	1
	17B992	BLOCK, manifold, SST, 2 injector, 1/8 BSPP (model 24W702)	1
	17B943	BLOCK, manifold, 3 injector, 1/8 BSPP (model 24W503, 24W903)	1
	17B993	BLOCK, manifold, SST, 3 injector, 1/8 BSPP (model 24W703)	1
	17B944	BLOCK, manifold, 4 injector, 1/8 BSPP (model 24W504, 24W904)	1

1 Torque to 15-16 ft. lbs (20.3 - 21.7 N•m)

2 Torque to 50-60 in. lbs (5.6 - 6.7 N•m)

Ref.	Part No.	Description	Qty
1 (cont)	17B994	BLOCK, manifold, SST, 4 injector, 1/8 BSPP (model 24W704)	1
	17D732	BLOCK, manifold, 5 injector, 1/8 BSPP (models 24X303, 24X308)	1
	17D734	BLOCK, manifold, SST, 5 injector, 1/8 BSPP (model 24X305)	1
	17B945	BLOCK, manifold, 6 injector, 1/8 BSPP (model 24W505, 24W905)	1
	17B995	BLOCK, manifold, SST, 6 injector, 1/8 BSPP (model 24W705)	1
	17B946	BLOCK, manifold, 10 injector, 1/8 BSPP (model 24W506, 24W906)	1
	17B996	BLOCK, manifold, SST, 10 injector, 1/8 BSPP (model 24W706)	1
	17B947	BLOCK, manifold, 15 injector, 1/8 BSPP (model 24W507, 24W907)	1
	17B997	BLOCK, manifold, SST, 15 injector, 1/8 BSPP (model 24W707)	1
2		HOUSING	1
3	17B937	CYLINDER, inlet, 1/8-27 NPTF, stand alone (models 24W487, 24W888, 24W493, 24W494)	1
	17B938	CYLINDER, inlet, 1/8-27 NPTF, SST, stand alone (model 24W489, 24W490)	1
	17B868	CYLINDER, inlet, manifold (models 24W401-24W408, 24W501-24W507, 24W801-24W808, 24W901-24W907, 24W483, 24W484, 24W491, 24W492)	1
	17B869	CYLINDER, inlet, SST, manifold (models 24W601-24W607, 24W701-24W707, 24W485, 24W486)	1
4		PISTON, end	1
5★		SPRING, compression, piston	1
6		PISTON, stroke	1
7		NUT, lock, stroke adjustment	1
8		ADJUSTER, nut, stroke, piston	1
9★		SPRING, compression, piston	1
10★		O-RING, 006, duro viton	1
11★		VALVE, body, one-way	1
12❖†✓		ADAPTER, outlet	1
13❖†✓		FITTING, compression	1
14❖†✓		ADAPTER, compression, nut	1
15★	17B885	GASKET, manifold inlet	2
16	17B948	CLIP, manifold (all carbon steel models)	2
	17B949	CLIP, manifold (all SST models)	1
17	123962	SEAL, square, GL-Series	1

Ref.	Part No.	Description	Qty

★	Parts included in Injector Repair Kit: Grease: 24W913 - GL-33 carbon steel; 24W914 - GL-33 stainless steel; Oil: 24W915 - GL-42
❖	Parts included in 1/8” Outlet Fitting Kit 24B677; SST - 24F943
†	Parts included in 4 mm Outlet Fitting (Adapter) Kit 24F513; SST- 24F555
✓	Parts included in 6 mm Outlet Fitting Kit 24F514; SST-24F556

Accessories

JIC-4 Fitting:

17B168 - Carbon Steel
17B169 - Stainless Steel

Tube Push-to-Connect Adapter:

17B879 - 1/8 inch O.D.
17B880 - 1/4 inch O.D.

1/8 inch NPTF Female Outlet Adapter:

17B780 - Carbon Steel
17B781 - Stainless Steel

Manual Grease Fitting Adapter: 24W495

Outlet Plug:

17B782 - Carbon Steel
17B783 - Stainless Steel

Tube Outlet Adapter:

†24F513 - 4 MM O.D., carbon steel
†24F555 - 4 MM O.D., stainless steel
24B677 - 1/8 in. O.D., carbon steel
24F943 - 1/8 in. O.D., stainless steel
24F514 - 6 mm O.D., carbon steel
24F556 - 6 mm O.D., stainless steel

Adjustment Nut Cap: 17B785

Technical Data

Oil Models

	US	Metric
Maximum Operating Pressure	1000 psi	6.89 MPa, 68.9 bar
Minimum Operating Pressure	750 psi	5.17 MPa, 51.7 bar
Suggested Operating Pressure	850 psi	5.86 MPa, 58.6 bar
Reset Pressure	150 psi	1.03 MPa, 10.3 bar
Output Volume per Cycle	adjustable: 0.001 - 0.003 $in.^3$	adjustable: 0.016 - 0.049 cc
Wetted Parts	carbon steel, stainless steel, fluoroelastomer	
Recommended Fluids	Minimum SAE 10 weight oil*	

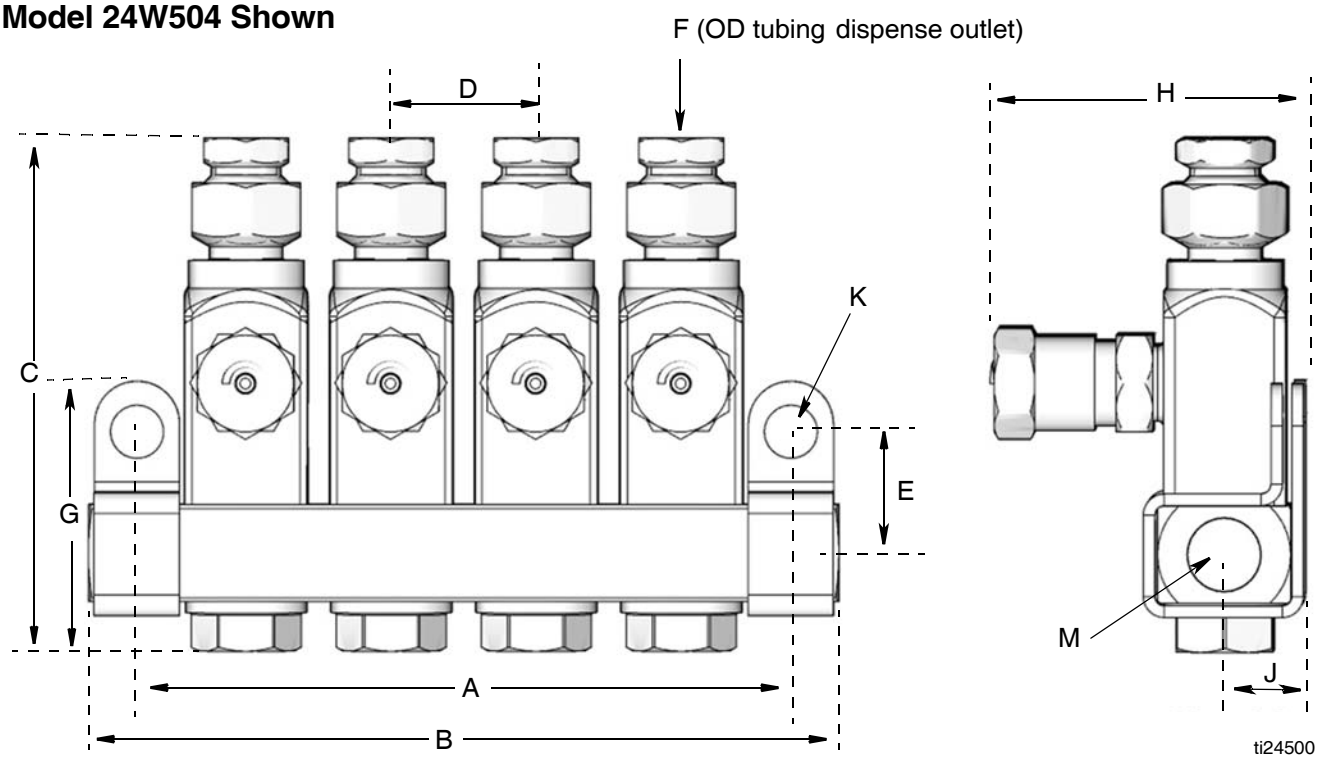
Grease Models

	US	Metric
Maximum Operating Pressure	3500 psi	24 MPa, 241 bar
Minimum Operating Pressure	1200 psi	8.3 MPa, 83 bar
Suggested Operating Pressure	1500 psi	10.3 MPa, 103.4 bar
Reset Pressure	200 psi	1.4 MPa, 14 bar
Output Volume per Cycle	adjustable: 0.001 - 0.003 $in.^3$	adjustable: 0.016 - 0.049 cc
Wetted Parts	carbon steel, stainless steel, fluoroelastomer	
Recommended Fluids	Grease N.L.G.I. grades #000 - #2*	

*Only use fluids appropriate for your application, automatic dispensing and the equipment's operating temperature. Consult with machine and lube manufacturer for details.

Dimensions

Model 24W504 Shown



Injector	**A** in. / mm	**B** in./mm	**C** in./mm	**D** in./mm	**E** in./mm	**F†** in./mm	**G** in./mm	**H** in./mm	**J** in./mm	**K** in./mm	**M*** NPTF or BSPP
Stand alone	single injector	manifold	2.54/ 64.6	N/A	0.62/ 15.8	0.125/ 3.2 OR 0.236/ 6.0	1.4/ 35.4	1.6/ 40.6	0.41/ 10.4	0.275/ 7.0	1/8 in. NPTF OR 1/8 in. BSPP
Manifold	replacement for manifold										
1 point manifold	1.13/ 0.57	1.63/ 41.4									
2 point manifold	1.88/ 47.8	2.38/ 60.5		0.75/ 19.0							
3 point manifold	2.63/ 66.8	3.13/ 79.5									
4 point manifold	3.38/ 85.8	3.88/ 98.5									
5 point manifold	4.13/ 104.9	4.63/ 117.6									
6 point manifold	4.88/ 124	5.38/ 136.7									
9 point manifold	7.13/ 181	7.63/ 193									
10 point manifold	7.88/ 200	8.38/ 213									
15 point manifold	11.63/ 295	12.13/ 308									

**To verify your injector's inlet / outlet thread type (M), see Model Nos. table provided on cover page of this manual.*
† 0.157/4.0 available as adapter kit.

Graco Standard Warranty

Graco warrants all equipment referenced in this document which is manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale to the original purchaser for use. With the exception of any special, extended, or limited warranty published by Graco, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Graco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

This warranty does not cover, and Graco shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility of Graco equipment with structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributor for verification of the claimed defect. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

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For patent information, see www.graco.com/patents.

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Original instructions. This manual contains English. MM 334495

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December 2014